The muddy waters of financialisation and new accumulation strategies in the global water industry: The case of AGBAR

Abstract

Since the turn of the century the global water industry has seen an influx of new financial actors, investment vehicles and markets along with a discernible change in the corporate strategies of big water operators. In this paper we argue that 'financialisation' is materially shaping ownership, control and geographical organisation in the global water industry. To make this case the paper investigates the historical development, geographical organisation and accumulation strategies of *Aguas de Barcelona* (AGBAR). By tracing out the development of AGBAR's operations in Argentina, Chile and the United Kingdom the paper provides a window on to the complex links between the industrial activity of providing water, both in developing and developed markets, and the chain of actors, techniques and activities that have deepened the industry's links with the circulation of finance capital. The paper argues that financialisation has been of an uneven and spatially variegated intensity, taking hold where the network of services and infrastructures involved in its delivery can be most profitably embroiled within new investment vehicles. This in turn has reacted back upon the geographical and strategic accumulation strategies of traditional water companies that are shifting from ownership operation to management contracts and research based investment.

Keywords: financialisation, water sector, AGBAR, institutional investors, pension funds.

1. Introduction

In recent years the global water industry has attracted the attention of many scholars that have investigated, *inter alia*, processes of privatisation, commodification, the dynamics of the 'hydro-social' cycle, and the role social struggles and resistance over water governance (see for instance Bakker 2010; Bond 2010; Castro 2007; Harris et al. 2013; Domènech et al. 2013). However, the proliferation and impact of new financial markets, investment techniques, and actors in the water cycle has been somewhat under researched. In a special issue of *Water Alternatives,* dealing with so-called 'water grabbing', Mehta et al. (2012) acknowledged that the financialisation of water services

and of the resource itself is a 'somewhat unchartered territory'. Of course 'financialisation', given its proliferation in the academic literature, can function as somewhat of a nebulous concept. Yet it is this uncertainty around the concept, and within the sector itself, that we believe warrants a closer look at what 'financialisation' in the water sector may entail.

Unlike oil and other natural resources such as carbon, water has not been 'financialised' in the sense of being traded on various platforms through spot prices, futures markets, and derivatives (see Labban 2010). Commentators and analysts point towards this possibility, but it is not yet a reality.[1] Rather what have been integrated into new investment vehicles are water infrastructures, services and ultimately the revenue streams generated by households. The wave of privatisation in the 1990s opened up the provision of water to new sources of private ownership, operation and investment which since around the turn of the century has attracted a broader array investors and new forms of financial engineering (Inderst 2009). This has been of an uneven and spatially variegated intensity. In short, it is not water itself, but the network of services and infrastructures involved in its delivery, that has been embroiled within the contemporary financial environment.

This paper sets out to explore how 'financialisation' is shaping ownership, control and geographical organisation in the global water industry. To do so, we investigate the historical development, financial investment strategies and corporate restructuring of *Aguas de Barcelona* (henceforth AGBAR). AGBAR is one of the world's biggest water operators currently controlled by French utility giant *Suez Environnement*. Whilst we do not want to suggest that AGBAR should be taken as the 'critical case', representative of changes for the water industry at large, we will show that its financial history, scale and scope of operation provide a useful indication of changes that are at the cutting-edge of financialisation in the global water industry. Indeed, by tracing out key areas of AGBAR's global operation we will be able to shed light on how the impact of changes in the global economy and the entry of investment, pension and infrastructure funds have had a material and geographical effect in the water sector. Thus, our aim is to provide a detailed empirical case study of important changes undergone by AGBAR and use this as a platform from which to reflect upon how

[1] As stated recently by chief economist of Citigroup, "I expect to see a globally integrated market for fresh water within 25 to 30 years. Once the spot markets for water are integrated, futures markets and other derivative water-based financial instruments…will follow. There will be different grades and types of fresh water, just the way we have light sweet and heavy sour crude oil today. Water as an asset class will, in my view, become eventually the single most important physical-commodity based asset class, dwarfing oil, copper, agricultural commodities and precious metals" (Business Insider 2011: online; FT Alphaville 2011: online).

far the case is representative of, challenges, or perhaps, extends our understanding of financialisation in the water industry. We do so through reference to the theoretical premises of financialisation in general and processes of financialisation in the water industry in particular. The former provides a macro framework and context for on-going changes in the global economy and the latter provides insights into specific transformations within the water industry.

The paper argues that through its global operations AGBAR has encountered obstacles and opportunities as financialisation has deepened within the water sector, which, in turn, has influenced its accumulation strategies and seen it embark upon a geographical reorganisation and strategic consolidation within the sector. This we argue represents a specific, but 'muddy', case of 'financialisation'. By describing this as 'muddy', we have two intertwined processes in mind: first, instability in the global economy, itself linked to processes borne out by financial liberalisation and deregulation (currency swings and devaluation, capital over-accumulation, capital flight and political instability) which gave rise to a profitability crisis in, and retrenchment from, certain markets; second, the entry into the global water industry of new financial actors and the creation of new financial markets therein, created the material conditions through which AGBAR was able to re-direct its accumulation strategy from ownership-based operation and into knowledge intensive research and the provision of water services. It is by investigating the interaction between these two processes that we can develop an understanding of how 'financialisation' is shaping ownership, control and geographical organisation in the global water industry.

The paper is structured as follows. Section two covers the general theoretical premises of the financialisation literature and then moves to unpack the concept and its implications of as seen through changes in the global water industry. In section three we develop a detailed qualitative case study of the changes AGBAR has undergone during its evolution as a global water company by means of focusing on three specific geographies: Argentina, Chile and United Kingdom. In section four we reflect theoretically upon how AGBAR's accumulation strategy has been influenced by financialisation and how far the case-study is representative of financialisation and the water industry. We finish with a summary of our findings and argument and suggest some future lines of research.

2. Mobilising 'financialisation' to understand changes in the global water industry

One of the novelties of post 1970s capitalism has been the apparent rise to dominance of financial markets in the global economy. During this time the growth in the magnitude of financial assets has

outstripped the growth of global GDP. For instance, David Harvey (2010: 30) has pointed out that in global terms "the US$40 trillion annual turnover in 2001 compares to the estimated US$800 billion that would be required to support international trade and productive investment flows", illustrating the apparent disunity between global finance capital relative to industrial production. A significant amount of research, across the social science disciplines, has been devoted to investigating the roots of this phenomena, prior to but especially post the 2008 financial crisis. The implications of this process are still much disputed (French et al 2011), and the literature that coalesces around the concept of 'financialisation' is extremely wide ranging. For instance, to recount just some of the most well-known accounts, financialisation has been mobilised to refer to the new locus of profits within capitalism (Crotty 2005; Dumenil and Levy 2005; Foster 2007); a class based project to restore the conditions of capital accumulation (Harvey 2005); the growing usage of financial concepts and cultures in daily life (Martin 2002); the dominance of the financial industry in the economy at large, measured by the share of finance-related income in non-financial firms (Krippner 2005); the creation of a new class of asset owning rentiers (Epstein and Jayadev 2005; Zeller 2009); and the ascendency of shareholder power in the influence of corporate business strategies (Froud *et al* 2007; Peters 2011; Stockhammer 2008).

This proliferation obviously poses the risk of appealing to an empty abstraction – the fate arguably of concepts such as 'globalisation' and 'neoliberalism' (Engelen 2008) – that has been invoked in so many scenarios as to lose explanatory power (for the full range categories see Lee et al 2009).[2] With this danger in mind, we want to recognise that there is a universal element to financialisation that can provide insights into the macro-economic context, but then proceed analytically through appeal to the activities and income sources that are associated with the micro-economic processes in the water industry. At its most general level we would concur with Swyngedouw (2010: 308-309) that financialisation is a process linked to "a particular form of circulating capital, premised upon transforming geographically specific, relatively fixed, and particular conditions into abstract circulating and interest yielding capital". At this level of abstraction the concept of financialisation has extensive applicability, but arguably could also contain within it processes such as commodification and neoliberalisation. Indeed, Fine argues (2010: 108) that financialisation can be seen as integral to (even shorthand for) neoliberalism and not merely one of its consequences. Thus

[2] In comparison to the logical properties of sociological concepts such as modernisation and secularisation Engelen has argued that financialisation "contains an epochal perspective on social reality with teleological overtones and a suggestion of gradual spatial extension. To shed these properties, the financialization literature has to become more sensitive to contextual variables and the way these interact with the wider capitalist developments that the concept of financialization is purported to denote" (Engelen 2008: 114).

to distinguish further what we mean by 'financialisation' in an empirical sense two interlinked processes are relevant the *activities* that financial institutions pursue which include financial intermediation, financial advisory, and financial investment and the financial *income sources* that can derive from such activities which include such things as interest and dividends (Christophers 2013).

It is well known that institutional investors from the Anglo-American world, especially pension funds have tended to dominate flows of global finance (Clark 2001; 2005). The move by pension funds and other institutional investors away from equities and into fixed assets (property and infrastructure) in conditions of natural monopoly, especially following the bursting of the dotcom bubble in 2001, could be taken as a further example of what Mitchell terms "the easier and more secure profits of rent" over "the difficult profits of productive activities or competitive trade" (2004: 22). This refers to the steady of stream of revenue that owners of financial assets can lay claim to over many years. This appropriation of revenue takes the form of interest-bearing capital (Fine 2010), and, therefore, reduces the difference between investments in stocks, shares, government debt and land to the extent that all assets are bought and sold according to the returns they yield (Harvey 1982). This according to Harvey (1982: 347) can be understood as the circulation of 'fictitious capital', a concept used to mobilise the way in which the trading of financial assets is based on "a claim upon future revenues they can yield, which means a claim upon future profits". This emphasises the inherently speculative underbelly of financialisation which prices things in the present based upon projected future returns.

In a recent article and monograph, Christophers (2012; 2013) suggests that this ability of financial institutions to profit from a range of global activities is indicative, above all, of a 'shift in contemporary capitalism's geography', rather than its structural make-up. In a similar geographically minded study Clark and Wójcik (2007) have shown how global financial markets can provide the means for firms to defect from, or at least reorganise their relationship with, local institutional environments. And by "understanding the agency of firms and the incentives they face, particularly those offered by financial markets", Dixon (2010: 11) argues we can provide direction and reason to macro-processes. Moreover, by unpacking the specificities of 'natural' conditions within a certain industry or sector, along with the specific institutional and operational conditions that companies confront, we can descend from the concerns of macroeconomic processes (i.e. the unresolved debate around where the locus of profits in the contemporary global economy are to be found) to provide a theoretically informed but empirically grounded account of financialisation (see also Kaika and Ruggiero 2013).

Therefore, in reference to the water sector we will identify the associated activities and income sources that are involved in transforming 'things' (infrastructures and services) into financial assets. But keeping in mind the above outlined limitations and boundaries of the concept of financialisation; the following offers some suggestions of how private participation in the water industry, since the late 1980s, has undergone a spatially variegated transition from privatisation to financialisation.

2.1 From privatisation to financialisation: transformations in the water industry

By the time 'neoliberalism' was in full swing globally the privatisation of former public companies and the deregulation of everything from labour and financial markets to the welfare state had become commonplace across many parts of the world. This retrenchment of the state also initiated a move back to the private provision of water in certain parts of the world (Budds and McGranahan 2003). In the western world many state owned water companies were plagued by under-investment in fixed capital, a condition exacerbated by high levels of debt, fiscal deficits and the turn to austerity as a recovery strategy. Recurrent scarcity periods and ageing infrastructure, combined with new stringent environmental regulations led to demands for increased investment (March and Saurí 2013). In this way water privatization also became embroiled in a wider debate over the sphere of legitimacy of the state and the most efficient way to organise the allocation of investment and resources – with ideological, material and political support, often backed by multilateral lending institutions, falling on the side of the market (Bakker 2003).

Public-Private Partnerships (PPP) promoted by international organizations in developing and transition economies, and full privatization processes such as the ones in England and Wales (Bakker 2005) and in Chile (Bauer 2004; Budds 2004), provided new markets for the pre-established European water firms beyond their domestic markets (Marin 2009). By the early 1990s European firms such as Suez, Veolia, Thames Water, Saur and AGBAR had considerable economic momentum based upon a sustained period of capital accumulation in the late 20th century and previous experience of public-private partnerships. As a result these traditional companies were well placed to compete in the newly expanding private water supply market.[3] At the global level, from 1991 to 2001 the population served by new awards to private operators increased from 6 million to 93

[3] Western Europe is by in large the area where private participation is strongest due to its long history in water supply. Suez (formerly Ondeo and *Lyonnaise des Eaux*) and Veolia (previously part of Vivendi, and also known as *Compagnie Generale des Eaux*) are the biggest European water companies. France is the only country in the world (with the exception of some cases such Barcelona or Valencia in Spain) where private companies emerging during the 19th century were not municipalized as it happened elsewhere in Europe and the United States.

million people (Marin 2009). From 1991-1997 the 'big five' mentioned above represented some 90% of the total investment commitment for the period 1991-1997, often embarking upon joint ventures to divide new markets; as a result investments in and operation of the water sector assumed an oligopolistic form (Marin et al. 2010; Morgan 2006; Swyngedouw 2005).

However, previous rounds of restructuring in the global economy, particularly the breakdown of the fixed exchange rate system in 1973, the global rise of interest rates in 1979 (Volcker shock), and the so called 'big bang' in 1986 that saw the interlinking of global stock and financial markets (Harvey 2010: 18), meant that whilst barriers to the movement of capital diminished and a range of new markets opened up, volatility and speculation increased. The financial crises that engulfed Asia in 1997 spread to Russia in 1998 and Argentina by 2001, notwithstanding specificities of regional accumulation models, were symptomatic of the instabilities internal to the logic of financial liberalisation: the opening up of capital accounts, huge credit creation and capital inflows, increasing private sector debt, bouts of speculation, and ultimately devaluation and currency turbulence. One of the many upshots of this volatility was the impact upon the operational and financial terms of PPP prevalent in many developing countries that were particularly vulnerable to disruptions in capital markets and exchange rates. A central problem became one of currency mismatch between revenue and financing sources: if debt denominated in dollars is recovered from payments made in a newly devalued currency, the original financial arrangement is thrown out of sync. Moreover, losses incurred through devaluation could not be offset, in most cases, by tariff increases which in times of crisis were socially and politically unfeasible (Baietti and Raymond 2005). Added to this were vulnerabilities specific to the 'natural' characteristics of the water sector such as its capital intensity and monopoly character that raises the investment risks associated with privatisations, as large amounts of debt are often concentrated among only a few companies, who in turn are beholden to shareholders and their demands to avoid low or risky returns.

It is out of this context that a second wave of private activity in the water cycle emerged. As Hall (2006: 182; see also OECD 2010: 39) has documented: from the early 2000s corporate strategies in the water sector have focused upon reducing exposure to developing or non-performing countries whilst at the same time reducing accumulated debts; as a way to stay active on world markets but avoid risks associated with direct capital investment water companies have moved into management contracts and research based investment; and, especially since 2002, assets such as infrastructure have been sold to financial investors. This in turn speaks to specific 'skill-set' that financial actors bring to the sector by distributing risk through techniques such as securitisation, in which revenues streams are packaged into tradable financial products (derivatives), broken up into earning

packages, assigned a risk profile and sold onto investors seeking long-term returns (Allen and Pryke 2013; O'Neill 2009). As we will argue in empirical detail below, it has been on the back of such financialisation techniques and the entry of new financial actors into the sector that traditional companies have re-organised their own accumulation strategies within the sector.

Therefore, since the outset of the 21st century, we believe it is possible to identify a dual process whereby traditional transnational water companies are playing a smaller role (in terms of market share/ownership) at the global level, whilst, at the same time, new financial markets for water-related assets have increased. As a result the private water sector as a whole and companies within it are further subject to external scrutiny from financial analysts and investors (such as pension funds), along with new specialist performance indexes and managed funds which attract a variety of investors (see also Gialis et al. 2011). One of the largest set of indexes that serve to quantify and measure the performance of the global water industry is provided by the S-Network Global Water Indexes (formerly known as Janney Global Water Index). According to this index, from 2005 to 2010 investment in the water sector returned an annual average of 10.21% (Peers et al. 2010: 6).[4] But given that indexes are imaginary portfolios of securities representing a particular market or a portion of it they are used to construct exchange traded funds (ETF) whose portfolios mirror the performance of the index.[5] These vehicles give investors exposure to the leading global companies in everything from water utilities, water treatment companies, and retail and distribution companies that operate in a global water market estimated to worth around US$360 billion (Coy and LaCorte 2013).

Thus in the context of the continued fallout from the global financial crisis in 2008, and uncertainly towards the value of equities and other large asset classes such as government bonds, investors have been attracted to water as it provides predictable inflation-linked cash flows under monopolistic terms (with low demand elasticity) which has tended to match the long-term liabilities of certain financial actors (Bloomberg 2007; FT 2011a; 2011b). It is perhaps in this context that institutional investors, looking for other viable investment opportunities, have contributed towards

[4] Other water indexes include the Palisades Water Index which tracks the performance of global water companies including water utilities and various equipment manufacturers; the Dow Jones U.S. Water Index made up of 29 stocks of international and national companies that have a minimum market capitalisation of US$150 million; and the ISE Water Index, which, launched in 2006, comprises over 35 stocks linked to water distribution, water filtration and flow technology.

[5] For instance the PowerShares Water Resource ETF and the PowerShares Global Water Portfolio both track the Palisades index and the best performing ETF of late has been the First Trust ISE Water (FIW) which tracks the ISE Water Index.

"a widespread interest and excitement regarding water-related businesses" (Maxwell 2012: 17). But if this all suggests the financialised ownership of assets in the water industry can provide attractive returns, what does the reorganisation of accumulation strategies (away from ownership and direct capital investment) undertaken by large traditional companies suggest about our empirical and theoretical understandings of financialisation in the water industry? To this question we now turn by focusing on the contemporary trajectory of AGBAR.

3. The internationalisation of water supply and finance: the case of AGBAR

The origins of AGBAR can be traced back to *Compañía de Aguas de Barcelona* that was actually formed in Liège in 1867 with Belgian (*Crédit Général Liégeois*) and French (*Compagnie Générale des Conduites d'Eau*) capital (Voltes Bou 1967). In the 1920s the company was overtaken by Spanish bankers, and with the exception of the brief collectivization during the Spanish civil war (Gorostiza et al. 2013; March 2013), it remained in the hands of banking groups throughout late 20th century. Water supply in Barcelona, as well as that of many French cities, was never municipalized as happened elsewhere in Europe or the United States (Hall and Lobina 2007; Melosi 2011; Morgan 2004). Given the natural monopoly of water supply this permitted a sustained period of capital accumulation for large private firms during the 20th century. From the 1960s onwards the group expanded its business mainly in Catalonia and Mediterranean Spain (March Corbella 2010). By the end of the Franco dictatorship in the late 1970s AGBAR was an important part of the Barcelona Stock Exchange and the company looked to begin its incipient international geographic expansion (Ibid.). With the incorporation of Spain into the European Economic Community (EEC) in 1986, new business opportunities opened up. First, Portugal was a target for internationalization with the creation of *Lusagua* in 1987. At the same time the company sought to diversify its accumulation strategies which included forays into areas such as waste treatment and health insurance (through Adeslas) – the latter being an indication of the way in which large companies were seeking to activate their capital in sectors that were newly opening up to private investment. According to CEO Ricard Fornesa the strategy was to diversify into companies with a strong prospect of generating future returns (LV, 29/10/1985:36).

If the 1980s saw the emergence of an international accumulation strategy, by the 1990s AGBAR became one of the most important water companies across the globe. During this period the group underwent several major changes in the shareholder structure, with equity changing hands between banks and utility companies via mergers and takeovers. The standout change came in 1990 when the

Catalan bank *La Caixa* became the second major shareholder, just behind the utility company *Lyonnaise des Eaux* (currently Suez).[6] In 1992 AGBAR was considered "a potent group without debts and secure profitability'" (LV, 27/3/1992:45), standing amongst the 10 largest private companies in the stock exchange of Madrid (LV, 21/6/1992:87).[7] By the mid-1990s AGBAR was controlled by banks (*La Caixa* and *Banco Bilbao-Vizcaya*), energy utilities (Endesa and Iberdrola) and by a multi-utility company (*Lyonnaise des Eaux*) while the remainder shares traded freely in the Spanish stock exchange. During this period, non-core activities – those not directly related to the water cycle – represented more than the half of the company's revenue stream, with its health care company Adeslas yielding almost a quarter of total revenues (LV, 18/5/1994:64).

At the end of the 20th century as the CEO of the company noted 'the problem [was] not the money […] but finding good opportunities' (LV, 10/11/1999:90). One opportunity that did present itself around this time was expansion into Argentina, an experience that would go on to shape a large part of AGBAR's accumulation strategies and financial repositioning vis-à-vis the water industry. Drawing upon newspaper library research, water business reports, institutional reports as well as secondary research, in what follows we present three cases in the recent trajectory of AGBAR in which 'financialisation' has impacted the geographical and strategic reorganisation of the company. First, the case of Argentina which goes back to the 1990s serves to illustrate retrenchment from developing markets in the context of the financial crisis, currency risks and falling profitability. Second, we look at the Chilean and UK water markets where, on the back of strong performance, new financial actors became increasingly interested in the ownership of traditional water infrastructures and utilities as financial assets. In this context we show how AGBAR is shifting from its original base of accumulation (urban water distribution) into knowledge intensive services and products within the water sector. This trajectory of AGBAR serves to highlight how macro-economic financial instability and the processes and techniques associated with financialisation in the water industry have been central to the reconfiguration of the geographies and modalities of their private participation in the water cycle. Given that AGBAR represents a single case within a large and complex global sector, methodologically we seek to use the empirical findings as the basis for theoretical generalisation in line with the arguments discussed in section 2.

[6] In 1997 *Lyonnaise des Eaux* merged with the *Compagnie Financière de Suez*, creating *Suez Lyonnaise des Eaux.* Subsequently in 2002 Environmental operations (water management, waste management, and energy) were grouped into a single business line: the *Suez Environnement Group* was born.

[7] If one excludes banks and energy companies, AGBAR would be in the top three companies on the IBEX by that time.

3.1. Argentina: Financial crisis and corporate restructuring

The slow speed of growth of Spain's highly regulated water in the 1990s contributed to AGBAR's internationalisation as the company sought out new water markets overseas, setting up its primary expansion plan in Argentina. Argentina was one of the Latin American countries enthusiastically following the 'Washington Consensus' during the 1990s, privatising state owned assets, opening its capital account and liberalising financial and labour markets. In 1993, *Aguas Argentinas*, a consortium that included AGBAR as a 25% stakeholder among other major private water operators,[8] won the 30-year concession for Buenos Aires by offering the largest tariff reduction among the bidders (see Alcázar et al. 2000; Hall 1999; Olleta 2007).[9] The concession was awarded based upon proposals for the expansion of the network, a reduction in price to end-users and environmental improvements such as new waste management capacity; commitments that required significant infrastructural investment. At the time such commitments did not present an issue for AGBAR and its partners because the Buenos Aires water market was estimated to be "the most profitable water concession in the world, with rates of returns approaching 40 per cent" (Loftus and McDonald 2001: 191). Indeed, in a broader macroeconomic context, according to Alcázar et al. (2000: 32) "an important factor enhancing the credibility of the government's commitment to the concession was the concern of the Argentine government with its reputation in global financial markets".

However by 2002, only 9 years into a 30 year commitment, *Aguas Argentinas* became so unprofitable that Suez and AGBAR requested its termination and threatened to abandon the concession (LV, 20/1/2005:69). The financial and operational commitments of the original concession were thrown drastically out sync during the financial crisis that engulfed Argentina at the turn of the century. Some respite was initially provided by the World Bank and its financial arm the International Financial Corporation (IFC) when in 2004 *Aguas Argentinas* was granted a financial restructuring program reducing its debt by 35% (Olleta 2007:12). However, *Aguas Argentinas* continued to be embroiled in operational disputes largely concerning a refusal to fulfil infrastructural investment agreements without further tariff increases.

[8] Lyonnaise des Eaux, Vivendi, Anglian Water; it also included the Spanish bank Banco de Galicia.

[9] Latter, in 1995 *Aguas de Santa Fe*, a company owned partially by *Aguas de Barcelona*, won a 30-year concession to supply water and provide wastewater services to fifteen districts in the Argentinean province of Santa Fe.

The Argentina experience has been described by Juan Antonio Guijarro, AGBAR's country manager for the Americas, as "a misunderstanding between the parties, over errors in calculation of the clients' capacity to pay, and through overestimating the ability to finance the infrastructure gaps via tariffs" (GWI 2010: online). Such 'errors' in financial engineering and decision making, however, cannot be explained alone by AGBAR's strategy in Argentina, however flawed and reliant upon tariff increases as it was (see Loftus and McDonald 2001). Through the latter part of the 1990s Argentina became reliant upon the expansion of government debt to maintain its convertibility plan that tied the peso to the US dollar (Carrera 2006). However, the Asian financial crisis in 1997 which saw the reversal of short term capital flows into developing markets sparked a chain reaction of regional financial turmoil, hitting Latin America with a run on the Brazilian currency which tipped regional markets into recession (Grinberg 2013). By 2001 the Argentinean state found it could no longer increase its foreign debt on international markets. When its capacity to replenish currency reserves evaporated the government introduced the *corralito* in an attempt to avoid a run on the banking system. Crisis conditions overwhelmed the Argentine economy as credit disappeared, tax collection plummeted, bankruptcies became widespread and unemployment rocketed (Carrera 2006). The peso was devalued in response to the crisis, this eroded AGBAR's profits at the same time as inflation massively increased its debts which were denominated in dollars (Olleta 2007). Mounting financial disputes such as the demand from *Aguas Argentinas* for exchange rate insurance which would stipulate that in the event of future devaluation the state would bear more than half of the company's external debt, set the stage for the terms of the concession to become untenable for all parties.

The decision to end their operations in Buenos Aires was finally taken by AGBAR together with Suez and other partners in September 2005 (while the Argentinean government claimed they were the ones to rescind the concession (LV, 22/3/2006:57)). Since which time financial disputes have intensified, with both sides having initiated legal proceedings to recover losses that stretch into the hundreds of millions (GWI 2010). One clear upshot for AGBAR has been a growth in caution from a financial management perspective, as Guijarro also affirmed: "though we're prepared to make investments, it is a mistake to be perceived just as financiers filling the historic infrastructure gap in developing countries" (GWI 2010). The extent to which private water firms have actually played this (quasi-benevolent) role is questionable and beyond the scope of this paper, what concerns our argument is how this perception has fed into changes in the geography and accumulation strategy of AGBAR – a line of analysis that we take up further in section 4 below.

3.2. The Chilean water market and new financial actors

Although widely regarded as the test case for neoliberal privatisation (Taylor 2002), it was not until 1998 that Chile embarked on large scale water privatisation. This turning point marked the large scale transfer of the assets previously held by state limited companies to the private sector (SISS 2013). By 2004 all public water companies had been partially sold off (the majority of the shares) or leased for 30 years to the private sector, following the French concession model (Ibid.). The state retained a stake in most of the companies, but by far the biggest players were the traditional transnational water companies such as AGBAR (and Suez) along with British companies such as Thames Water and Anglian Water (see Larraín and Poo 2010).

One of the major players in this wave of privatizations was a new consortium *Inversiones Aguas Metropolitanas Limitada* (IAM) led by AGBAR and *Lyonnaise* (later Suez). Formed in 1999, IAM bought 51.2% of the most important public water supplier in Chile: *Empresa Metropolitana de Obras Sanitarias* (EMOS), which became known as *Aguas Andinas*. The takeover included an indefinite concession for the water supply service for Santiago de Chile, with a population of 5 million people (LV, 12/6/1999). A year later AGBAR increased its presence in the Chilean water supply market with the acquisition, through *Aguas Andinas*, of *Aguas Cordillera*, the supplier of the wealthy districts of Santiago de Chile along with a 50 percent stake in the Chilean water firm *Aguas Manquehue* (LV, 2/2/2002). In 2002 and again in 2004, AGBAR expanded its control over the Chilean company by means of an internal reorganisation of IAM's share structure which saw Suez reduce its exposure in Chile (GWI 2004). Thus, after leaving the main concession in Argentina in 2005 and scaling back its operations in Uruguay, Colombia, Brazil, Mexico and Cuba, Chile became AGBAR's main site of expansion providing by far the highest regional returns and subsequently the opportunity to take advantage of deeper financialisation of the market. The following offers an empirical illustration of the transition, outlined above, from privatisation to financialisation as the Chilean water sector became linked with new financial markets and began to attract the interest of new financial actors in the shape of pension, investment funds and banks.

In 2005 IAM, as the majority shareholder of *Aguas Andinas*, floated 49.9% of its shares on the Chilean stock market and also in the US through American depositary shares (ADS), the latter vehicle providing foreign corporations indirect exposure to US stock markets. This strategy aimed to increase *Aguas Andinas* liquidity, that is reap cash returns, on the back of "Aguas Andinas' good performance, the solid macroeconomic conditions of Chile and the stability of the sector's regulatory framework (BNAmericas 2005: online). Through these financialisation mechanisms AGBAR was able to initiate the expansion of *Aguas Andinas* both in the Chilean market and abroad. In 2008, *Aguas Andinas* obtained a 51% stake in the Chilean water company ESSAL, formerly held by the Spanish

energy company Iberdrola (SISS 2013). Then in 2009 *Aguas Andinas* expanded its business beyond the regulated water supply and sanitation services in Chile, leading to further expansion beyond Chilean frontiers (by means of Chile-based companies). Full financialisation of Aguas *Andinas* can be said to have taken place in 2011, when the Chilean state sold its remaining 30% in the company for 980 million dollars to a range of new stakeholders (GWI 2011a; SISS 2013). Combined with a previous floating of 15% its shares (GWI 2011a), this left the state with only a 5% stake through the Public Development Corporation CORFO (SISS 2013).

Therefore, whilst IAM continues to be (in 2013) the majority (50.1%) shareholder of *Aguas Andinas*, the packaging of the company into discrete financial holdings has seen new financial actors enter the picture, such as the Chilean *Administradoras de Fondos de Pensiones* (AFP) with a direct 2.2% holding and a further 7.2% issued by stockbrokers as financial intermediaries for public equity markets (Aguas Andinas 2013). And as an example of portfolio diversification within this financial structure, other parties have an indirect (dividends as opposed to operating profits) exposure to *Aguas Andinas* through holdings in IAM where AGBAR through the subsidiary IAGSA is the main shareholder. For example the *Banco de Chile* has a 7.79% holding on behalf of third parties, the Bank of New York (BoNY) 1.74% on behalf the holders of American Depositary Shares, while the Chilean pension fund AFP has a 1.23% holding (see IAM, 2013).

For pension and investment funds the stability of the Chilean water market (lower risk of exchange rate fluctuations and civil unrest) and a period of proven profitability, in contrast to the above Argentinean case, offer a 'safe' investment for large surpluses of capital. For instance the Ontario Teacher's Pension Plan (OTTP), the largest single-profession plan in Canada managing the pension schemes of more than 300,000 retired and active teachers (OTTP 2013), entered the Chilean water market in 2007. According to their internal reports this was because, "Chile continues to be an excellent place to invest. As long-term investors, we are attracted by the ability of these two companies [ESVAL and ESSVIO] to generate predictable returns over many years to help meet the plan's pension obligations" (OTPP 2011: online). And as an indication of the broader applicability of AGBAR's trajectory in Chile, the OTTP has also moved into ownership structures through the purchase of assets from other traditional transnational companies such as Thames Water and Anglian Water.[10]

[10] Specifically they became the main shareholder of ESVAL acquiring 69.4% of their shares (ESVAL 2009; OTPP 2007), from *Consorcio Financiero*, the major insurance company in Chile, and other shareholders. Previously in 2004 *Consorcio* became the major shareholder the company at the expense of Anglian Water. On the other hand, OTPP also became the major shareholder of ESSBIO in the detriment of Southern Cross, which in turn

Therefore, in contrast to AGBAR's reactive strategy in Argentina, it was precisely the strength of the market and the strong performance of privatisation that made the sector attractive to large financial actors. This presented the traditional companies with the chance to reap profits by liquidating ownership holdings, but also expand and reorganise within the Chilean market through management and operation contracts. This case is indicative of how the growing financialisation of developed water markets is reacting upon the geographies of ownership and operation, a trend that is also evident in the UK water market and AGBAR's recent financial repositioning therein.

3.3 The UK water market and financialisation strategies

Alongside Chile, the English and Welsh water services market has been the other main outlet for AGBAR's international operation over the last decade. Against the backdrop of deregulation under the Thatcher government, water supply in England and Wales underwent a process privatisation through the formation of private regional water utilities in 1989 (Bakker 2005). The first round of buyouts initially saw 'English' capital take controlling stakes in the newly privatised water market. However, in the period 2000-2010 there was a sea change in shareholder structure with 18 out of 27 companies recording changes of ownership (Office of Fair Trading 2010). This we suggest is also illustrative of the privatisation-financialisation dynamic outlined above, which saw many international water companies (Suez, Veolia, RWE and AGBAR) take up strategic positions in the English water market then relinquish holdings to new financial investors. For example, AGBAR entered the British water market with the take-over of Bristol Water in 2006. AGBAR paid 10.60 pounds-a-share (plus a dividend of 22.5 pence per share), valuing the company at 170 million pounds, 40% higher than the average closing share price over the year before (The Guardian, 22/04/2006). The deal, however, actually rose to 390 million pounds when the outstanding debt (160 million pounds) was factored in, making it the highest bid premium in the UK water market until that date (GWI 2006). Given that this deal was said to lack industrial rationale, the buyout seems to represent a defensive form of financial repositioning on behalf of AGBAR to avert a hostile takeover bid from Veolia (GWI 2006).

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had bought the stakes of Thames Water back in 2005 (GWI 2005; SISS 2013). In 2011, in the context of a further step backwards for the state, OTPP increased its stakes in ESSBIO to 89.6% and in ESVAL to 94.2% (OTPP 2011). Currently OTPP is the second "water provider" of Chile; however, if talk in terms of ownership, OTPP is the major owner of assets in the Chilean water market (SISS 2013), ahead of AGBAR.

Only five years after this acquisition, in October 2011, AGBAR sold its majority stake in Bristol Water to the Canadian global infrastructure fund Capstone, retaining a 30% holding and an agreement to provide advice and assistance with operational and technological services (FT 2011b). AGBAR (2011a) said that the entrance of a financial partner represented investors' acknowledgment of the good management of the company. Thus in a similar vein to the Chilean market, the strong performance of private water companies attracted a new wave of financial investors which embroiled AGBAR within further processes of financialisation. Indeed, according to Capstone (2012), the attractiveness of UK water market lies in its stable regulatory environment which permits the recovery of operating costs and a reasonable return on capital invested. Yet by May 2012, just few months after this buyout, Capstone had already sold 20% of the company for US$68 million to the Japanese trading company Itochu Corporation (Itochu 2012). This deal was designed to provide just under half the funds to pay down the US$150 million loan it took to finance the original deal (Global Water Intelligence 2012b).

Such a leveraged purchase, in any corporate sector, requires access to cheap capital or the quick turnover of assets to uphold equity values and reduce the risk of exposure to large tracts of debt. In the case of Capstone its "projected equity returns" were based upon a "combination of the leverage in the acquisition and the associated debt providing a lower cost of capital than 4.5%", but the debt (issued and brokered by the Australian infrastructure and investment fund Macquarie) carried a rate of interest of 4.75% for the first 9 months, and rose to a maximum of 7.25% thereafter (GWI 2011b). Initially Capstone mooted the possibility of replacing the debt with bonds and internally generated cash, but ultimately turned to fresh equity release with the 20% sale to Itochu Corporation to fill this financial hole. By taking over AGBAR's majority stake in Bristol water and treating it as a financial asset, through hands-off operation and debt-led takeover, Capstone's actions shine a light on the above outlined (section 2.1) risks of financialisation in the water sector: when the asset's yield drops below its price (cost + interest) it reveals fictitious capital for what it is - the speculative claim upon future profits. This also highlights the role of financial intermediaries, in this example Macquarie, using their ability to access AAA rated debt and expertise in infrastructure deals to act as market makers (Labban 2010), allowing assets to change hands more readily with the entry of other financial institutions interested in speculative or projected returns.

AGBAR's financial repositioning is symptomatic of recent activity in the English water market. Traditional operators that were the first movers in the privatisation drive have now offloaded large portions of their assets to infrastructure funds and investment consortiums. For instance, since the mid-2000s companies such as Thames Water, The Anglian Water Group and Southern Water have all

been acquired by a range of infrastructure funds and global investment consortiums.[11] Notwithstanding the specificities of each deal this offers an empirical illustration of how changes in shareholder structure in the UK water sector are being driven by the incentives, mechanisms and techniques of financialisation which permit leveraged take-overs, the compartmentalisation and pricing of assets, and the attraction of a range of new financial investors. Again, drawing principally on the case of AGBAR the following section, in reference to the theoretical discussion developed above (section 2), explores how this process of financialisation has reacted back upon the accumulation strategies, and therefore the geography of, traditional water companies.

4. Variegated geographies of financialisation and new accumulation strategies

The case study of AGBAR provides one window on to the variegated and complex links between the industrial activity of providing water, both in developing and developed markets, and the chain of actors, techniques and activities that have deepened the industry's links with the circulation of finance capital. As was shown above the activities and income sources linked to financialisation can disperse risks and prices different assets for potential investors, thus creating new markets once removed from the 'muddy' waters of direct operation, but at the same time translating this into the 'muddy' waters of financialisation. This perhaps points towards an intensification of Swyngedouw's (2006: 199) claim that "the fundamental axis around which the water nexus is organized is the availability of and access to capital." Thus it is not just access to capital, but through whom the capital is raised, under what financial terms and where it is to be invested. It is clear that for AGBAR, as a traditional transnational water company, its priorities lie in reducing exposure to sunk costs and the requirement to pursue infrastructural investment.

The response to 'shareholder value' (Froud *et al* 2000) within the company's corporate governance provides part of the micro explanation why AGBAR shifted away from large-scale infrastructural investment after its Argentina experience. Yet it was also the limits of Argentina's development policy that pegged to the peso to the dollar and required the sustained influx of foreign credit that contributed AGBAR's financial and industrial strategy becoming untenable. As Arrighi (1994: 320-

[11] Thames Water was acquired by Kemble Water Holdings Limited, a company comprised of the global infrastructure fund Macquarie, pension funds and other large investors from Canada, Australia and Europe (Thames Water 2011). The Anglian Water Group Limited (AWG) was acquired the global investment consortium Osprey Acquisitions Limited made up of partners fro, Canada, UK and Australia (Anglian Water Group 2012). Southern Water was acquired by the American bank JP Morgan together with the Australia's Challenger Infrastructure Fund in 2007 (Bloomberg 2007; NYT 2007).

321) outlined in one of the pioneering accounts of financialisation 'fluctuations in exchange rates became a major factor in determining variations in corporate cash flow positions, sales, profits, and assets in different countries and currencies. In order to hedge against these variations, corporations had little choice but to resort to the further geopolitical diversification of their operations.' However, given the geographically fixed form taken by investment in the water industry, AGBAR's experience highlights an inability to hedge against financial risks when capital is sunk into water infrastructures. Thus rather than diversification across countries we encounter geographical consolidation within certain geographies of the water the sector. When seen from this perspective it is clear that financialisation in the water sector is far from a smooth linear process. Rather changes to the economic environment provoke changes in financial calculation which is always an expression of variegated geographies and the uneven terrain upon which financialisation plays out (Pike and Pollard 2010). For instance, in general terms the withdrawal of the big operators from Latin America pointed to a decline in the number of contracts awarded annually to private operators (for instance in 2006 the figures were similar to those of pre 1999 (see Marin 2009)).

It is out of this trend that we can decipher the accumulation strategies of AGBAR, the incentives offered by financial markets (Clark and Wójcik 2007; Dixon 2010), and its integration into new innovation schemes to capture added value less from traditional (material) ownership and more from (immaterial) knowledge. As part of Suez's overall corporate strategy, AGBAR has shifted markedly away from long-term contracts and ownership of traditional urban infrastructures to new services and technological solutions (GWI 2012). Examples include *Aquology,* AGBAR's global brand which includes integral technological solutions for the water cycle, knowledge intensive activities and innovation that are designed to adapt to the particularities and geography of the customer (AGBAR 2011b). Indeed, *Aquology* has been leading the way in smart meter technology and its solutions have "become a standard in the market" (Aquology 2013). Actually, at the time of writing, through its subsidiary *Aquology* AGBAR was planning to build a US$300 million desalination plant in the Atacama desert in Chile, where the activities of mining companies are raising water demand (Bloomberg, 16/10/2013). AGBAR has projected a growing role for desalination in Chile in the coming years (from 120,000 m^3/day to 650,000 m^3/day in 2016) linked to the operation of industrial and mining projects (BNAmericas, 18/10/2013). Other examples include *Dolce Ô* and Blue Orange. The former develops services at the household level, from tools to monitor water use and leakages to alert systems (Lyonnaise des Eaux 2013), and the latter, created in 2010, functions as an investment fund to promote new water and waste technologies (Suez Environnement 2013). These shifts towards quality-based activities may also hint at an awareness of the trend of decreasing water consumption in many cities, for instance in Europe (Saurí, 2013). Thus, the pattern that

emerges from this is new market niches based on services and technology have been flourishing at the same time as financialisation has taken hold of the ownership of urban water supply.

Where these financialised forms of ownership in the water cycle have taken hold it suggests the evasion of the materiality in two key respects. First, traditional water companies have moved away from the risks associated with large sunk costs and endorsed the separation of ownership from management. A move made possible by the techniques of financialisation and the ceding of majority equity holdings to new institutional investors. Second, finance capital (pension funds, investment funds) and its forms of financial intermediation (leveraged buy outs, cheap debt) have increased the liquidity of water assets and ushered in a range of actors seeking a foothold in the water sector that are removed from the day to day operations and material provenance of their revenue streams. What is significant to note in this respect is that investors in new water based vehicles – mediated by financial institutions – are not concerned with investing directly in the utility company, as was the case with direct equity holdings in water companies as illustrated in the history of AGBAR. Rather, water focused investment funds attract investors by the fees, projected returns and policies of the fund managers which can often be treated separately from the actual finances of utilities themselves. As Hall (2009: 8) argues "it is an illusion to think that the returns on this investment come from the secure revenues of utilities."

In this light it is an empirically intractable problem to untangle whether returns to investors in water related vehicles derive from inventive forms of financial engineering such as arbitrage or from the profits linked to household revenue streams (see Allen and Pryke 2013). The former would suggest that financialisation has indeed taken place whereas the latter would point towards a direct link between industrial activity in the water cycle and returns to investors. What can be garnered from this trend, however, is that the embedding water infrastructures and services in global capital markets, as financial assets, has deepened the accumulation potential of private participation in the water cycle. Whether operating passively through index linked ETFs or based upon direct acquisition by institutional investors, it is not the asset itself that is sold on, but the performance of the asset (O'Neil 2009). As noted above, it is in this way that investment in both water utilities and infrastructures can function as a form of 'fictitious capital' (Harvey 1982), that are bought and sold according to the yield they can offer thereby transferring the risk onto the owners of a variety of dependent (or derivative) financial products' (O'Neil 2009: 171). Allen and Pryke (2013) have outlined the 'post-political' implications of this change whereby a captive public are embroiled unwittingly in the world of financialisation, which exists beyond the purview of regulators and means that value can be transferred from 'consumer' to investor through the 'muddy' channels of

financialisation. At the same time companies such as AGBAR are less and less tied financially to the fortunes of geographically fixed operating contracts and instead have the mobility of a global water-tech service provider, which as we have shown has been part and parcel of the financialisation of water utilities and infrastructures and the separation of ownership from management.

5. Concluding remarks

As Christophers (2012) has suggested the notion of a 'financialised capitalism' may be bending the stick too far; given how much the financialisation literature is skewed towards the experiences of 'national' variants of capitalism found in the most putatively financialised economies of the UK and the US. In this paper we have adopted a sector specific, but transnational perspective, seen through the lens of AGBAR's restructuring to offer some theoretically informed, but empirically grounded reflections upon financialisation in the water industry. The paper took care to de-limit the boundaries of the concept by sticking to the analysis of financial activities and income sources that have become bound up with the complex and decentralised operation of the water sector.

From this basis we provided added reflections on what has been identified as a shift in the interests of big water operators from long-term and high-risk agreements (full-ownership or concession) to shorter and more managerial contracts (*affermage*, management contracts, etc.) and to new interventions in the water cycle, such as desalination (see Bakker 2010; 2013; Hall and Lobina 2012a; 2012b; Marin 2009). The paper tied this transformation to the changes wrought by financialisation in the water sector, by making contextually specific theoretical generalisations from AGBAR's geographical reorganisation and sector specific consolidation. The paper, however, does not imply that a simple cause and effect can be elucidated from the AGBAR case or from the dynamics of financialisation. As our appeal the metaphorical notion of 'muddy' suggests understanding 'financialisation' requires a dialectical combination of macro-economic context and micro-economic specificities.

Thus AGBAR's move to restructure their mode of operation and enhance profitability in the water sector was shown to be a response to pressures emanating from spatially variegated geographies of the global water industry where currency risks, profitability squeezes and political intervention in developing markets prompted direct operational retrenchment. Whereas profits reaped from equity liquidation in developed markets, have been invested in diversified technology led accumulation strategies. Thus what we can observe is that the forms of 'financialisation' investigated in this paper are representative of instability in developing markets and the conditions that prevail in developed

water markets where a sustained and 'successful' period of privatisation has attracted the flow of fictitious capital. It was in this context that AGBAR discovered the value of urban water infrastructures as a financial asset and was able to mobilise this embedded value by relinquishing majority holdings in ownership-based operation and moving into water based service delivery across a diversity of platforms.

Moreover, this paper has highlighted why new financial actors in the water sector are key players to be scrutinized if we are to understand the recent changes in the uneven and variegated geographies of the water industry. While financial investors (with no previous experience in the water business) are progressively taking stakes in companies in mature markets, management in most of those cases, as well as exploration for new water sources (such as desalination), remains in the hands of traditional water companies. Future research regarding the way in which financial actors have deepened the array of accumulation strategies in the water sector, may want to explore the implications of the ageing infrastructure that now is held by pension funds or other financial actors that will soon requires massive investment. Will financial institutions and private investors be willing to invest further into urban infrastructures or will this presage a return to other forms of public-based management (as happened in Wales' move to non-profit based operation)? These questions are inseparable from the current form taken by financialisation in the water sector and remain to be answered in future research.

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